

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: INVUE

Report Number: P368054

Luminaire Tested: **MSA-SA3D-727-U-RW**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P368054  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1910-543-7)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: INVUE  
Catalog Number: MSA-SA3D-727-U-RW  
Description: MESA POST TOP DECORATIVE LUMINAIRE. (3) LIGHTSQUARES WITH 16 LEDS EACH AND RECTANGULAR WIDE OPTICS.  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 17095 lumens  
Efficiency: N/A  
Efficacy: 89.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Short  
BUG Rating: B4 - U0 - G4

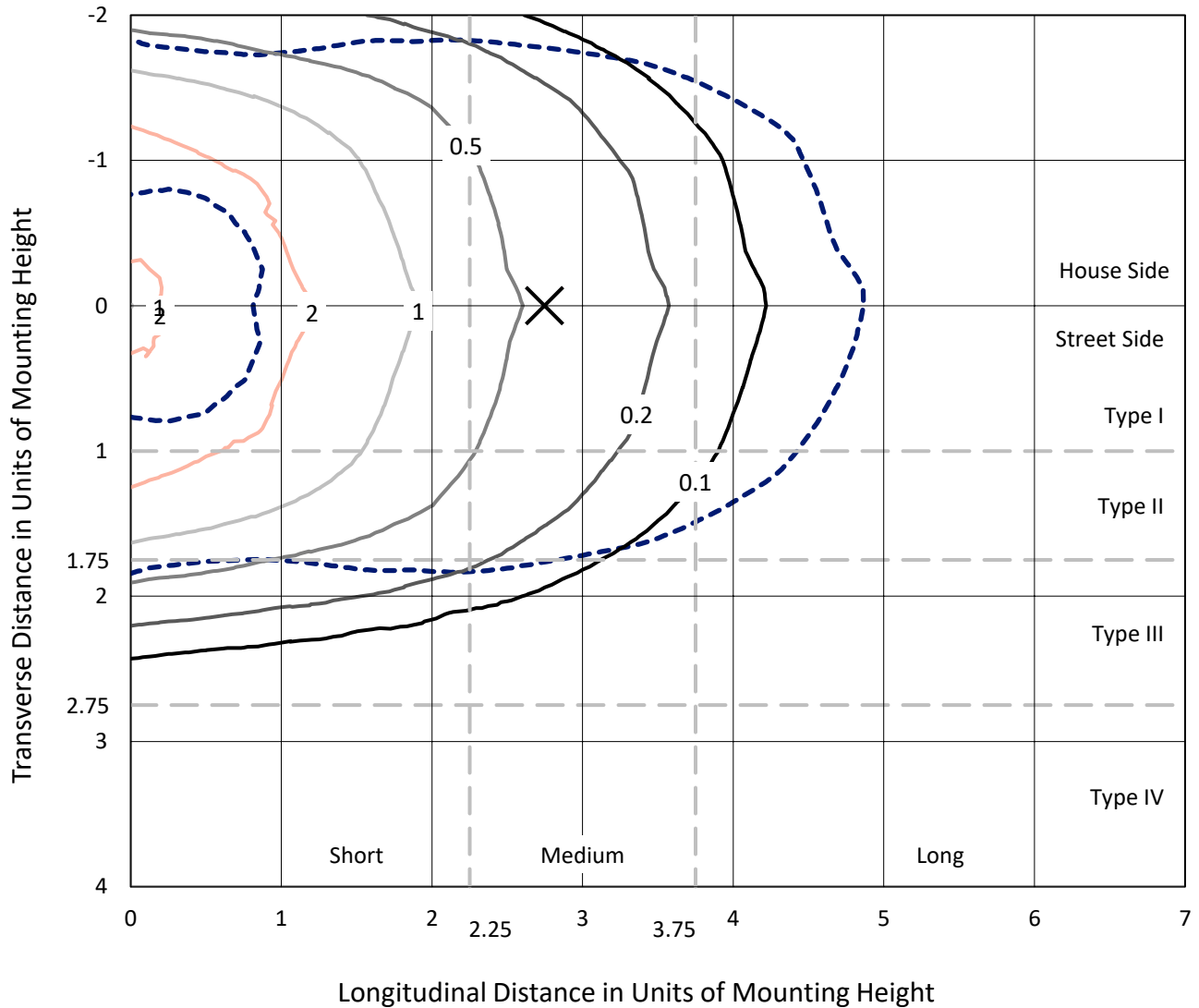
Input Watts (W): 192  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

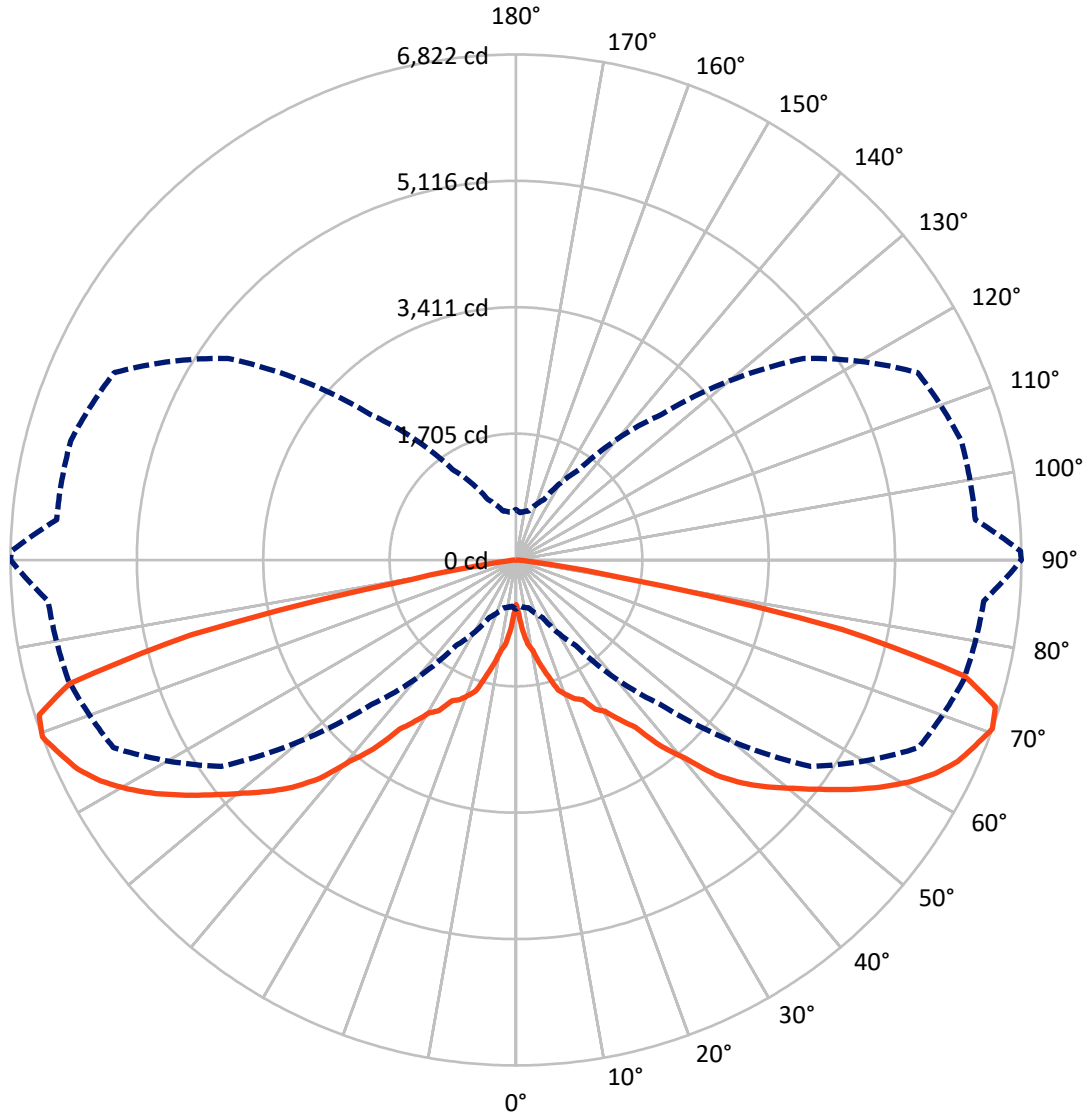
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 2.8 fc  
 Type III - Short - N/A

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### Luminous Intensity Polar Plot



— Vertical Plane Through 90-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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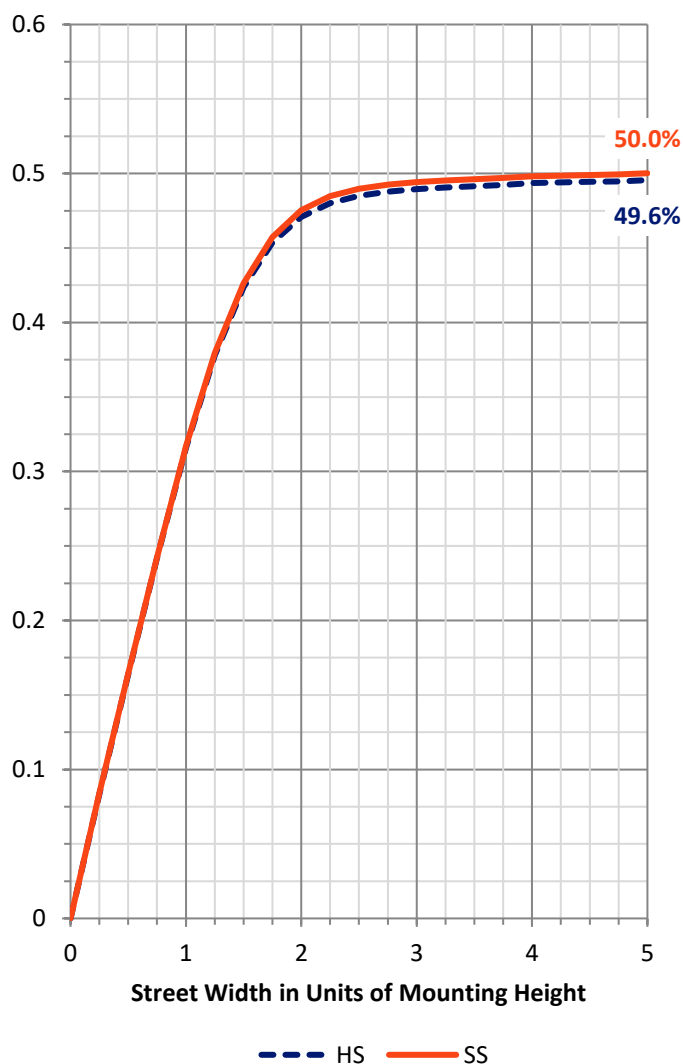
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	8515.8	0.0	8515.8
	% Fixture	49.8	0.0	49.8
<b>Street Side</b>	Lumens	8579.2	0.0	8579.2
	% Fixture	50.2	0.0	50.2
<b>Total</b>	Lumens	17095.0	0.0	17095.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.5	0.5
10°-20°	414.8	2.4
20°-30°	896.9	5.2
30°-40°	1711.2	10.0
40°-50°	3108.7	18.2
50°-60°	4367.0	25.5
60°-70°	4169.7	24.4
70°-80°	2139.9	12.5
80°-90°	196.2	1.1
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	17095.0	100.0
0°-180°	17095.0	100.0

**Coefficient of Utilization**



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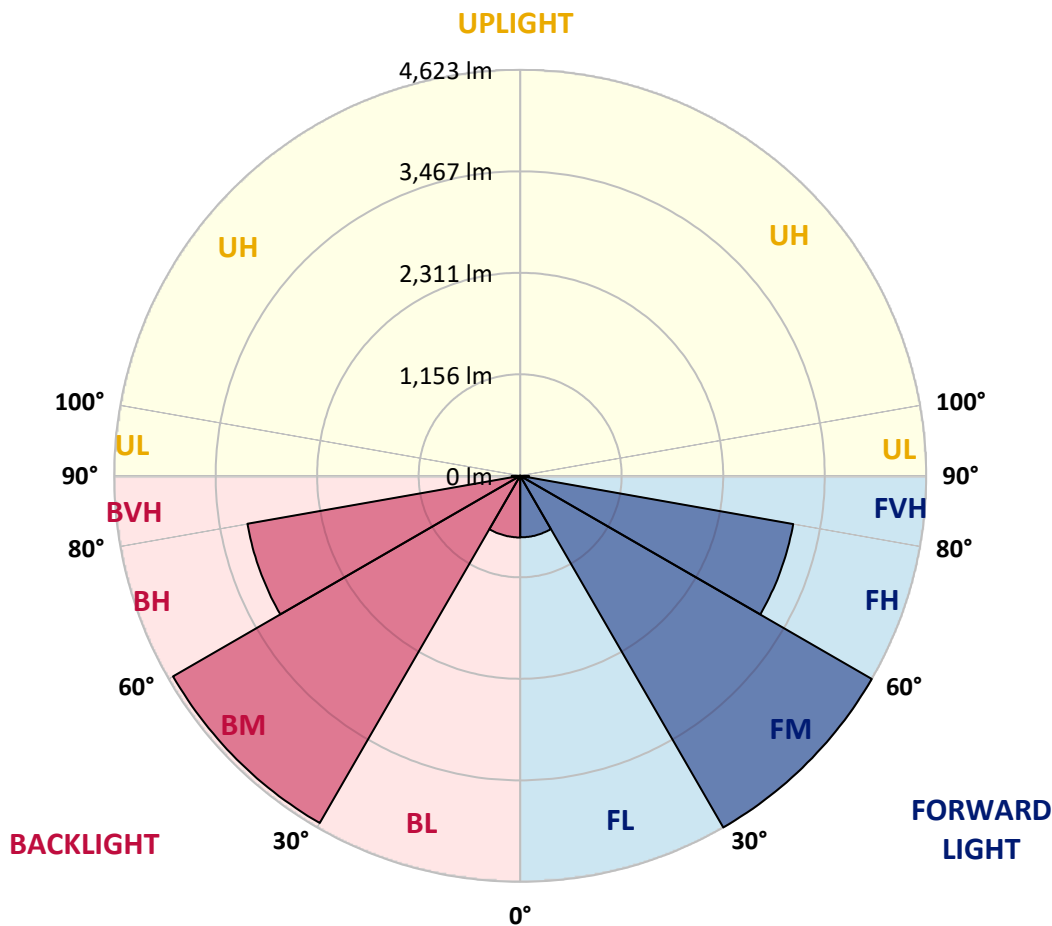
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	700.4	4.1			
FM (30°-60°)	4622.7	27.0			
FH (60°-80°)	3156.5	18.5			G2/5000
FVH (80°-90°)	99.6	0.6			G1/100
BL (0°-30°)	701.8	4.1	B2/1000		
BM (30°-60°)	4564.3	26.7	B3/5000		
BH (60°-80°)	3153.1	18.4	B4/5000		G4/5000
BVH (80°-90°)	96.6	0.6			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B4-U0-G4**

Type III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
2.5°	726.8	699.8	665.8	685.9	694.2	708.8	706.7	699.8	670.0	719.9	725.4
5°	909.7	866.7	850.8	848.0	852.2	838.3	883.4	870.2	894.5	939.5	949.9
7.5°	1035.8	1003.9	970.0	980.4	937.4	931.2	989.4	1041.3	1054.5	1136.9	1142.5
10°	1095.4	1064.2	1073.2	1067.0	1062.1	1102.3	1129.3	1167.4	1222.2	1229.8	1241.6
12.5°	1146.0	1158.4	1197.9	1196.5	1261.7	1333.0	1322.6	1362.1	1371.1	1466.7	1437.6
15°	1274.1	1299.8	1297.0	1321.2	1349.6	1466.7	1467.4	1534.6	1596.3	1633.7	1624.0
17.5°	1461.9	1470.9	1433.5	1434.9	1517.3	1565.1	1618.5	1606.7	1767.4	1840.9	1845.7
20°	1574.1	1597.0	1554.0	1497.2	1643.4	1709.2	1739.0	1670.4	1842.3	1941.3	1941.3
22.5°	1770.2	1711.3	1646.2	1608.1	1736.9	1806.9	1803.5	1784.1	1875.5	2050.8	2034.2
25°	1878.3	1845.0	1812.5	1822.2	1887.3	1923.3	1971.1	1926.1	2012.0	2142.2	2087.5
27.5°	2083.4	2021.7	1861.6	1989.1	1989.1	1962.1	2063.3	2084.7	2028.6	2240.6	2281.5
30°	2315.5	2294.0	2067.4	2202.5	2161.0	2084.7	2278.7	2264.9	2170.7	2386.8	2368.1
32.5°	2535.1	2605.8	2391.0	2316.8	2379.2	2408.3	2306.5	2348.0	2366.0	2574.6	2565.6
35°	2871.8	2931.4	2646.6	2627.9	2524.0	2497.0	2574.6	2588.4	2589.8	2809.4	2769.3
37.5°	3454.5	3368.6	3087.3	2954.9	2966.7	2934.2	2949.4	2839.9	2855.2	3173.9	3194.0
40°	3880.6	3783.6	3470.4	3375.5	3142.7	3282.0	3158.6	3147.6	3117.1	3530.0	3518.9
42.5°	4351.0	4218.0	3871.6	3744.8	3497.4	3440.6	3383.8	3512.0	3503.7	3886.1	3970.6
45°	4706.4	4437.6	4256.8	4177.8	4029.5	3890.3	3836.2	3893.7	3867.4	4151.5	4299.0
47.5°	4930.9	4697.4	4489.6	4323.3	4181.3	4522.8	4249.2	4172.3	4118.9	4436.9	4579.0
50°	5109.7	4840.2	4594.9	4539.5	4651.7	4953.8	4522.1	4352.4	4417.5	4651.7	4845.0
52.5°	5158.2	4872.7	4652.4	4617.1	4920.5	4975.3	4905.3	4619.8	4602.5	4909.4	5142.9
55°	5009.9	4736.2	4631.6	4824.9	5160.2	5114.5	5221.2	5039.0	4916.4	5172.7	5466.5
57.5°	4628.1	4356.6	4331.6	4610.1	5032.8	5422.1	5474.8	5330.7	5169.9	5441.5	5788.0
60°	4001.1	3753.1	3816.1	4123.8	4761.2	5315.4	5595.3	5463.7	5413.8	5684.0	6085.9
62.5°	3024.9	2831.6	3000.0	3428.8	4265.1	5177.6	5761.6	5740.8	5668.8	5941.8	6349.1
65°	1928.9	1827.0	1998.8	2434.6	3495.4	4926.8	5841.3	5869.0	5935.5	6140.6	6552.8
67.5°	1121.0	1067.0	1171.6	1528.4	2489.4	4045.5	5693.0	6090.7	6125.4	6243.1	6686.6
70°	663.0	627.7	670.7	858.4	1409.2	2756.1	4856.1	5993.7	6255.6	6337.4	6821.7
72.5°	505.8	472.5	453.8	507.8	735.8	1423.8	3283.3	5080.6	6151.0	6275.0	6764.8
75°	437.2	405.3	383.1	388.0	437.9	676.2	1779.9	3633.9	5241.3	5713.8	6248.7
77.5°	375.5	347.1	331.2	329.8	336.0	371.4	744.1	1970.4	3282.7	4107.1	4504.8
80°	300.7	278.5	275.1	275.1	266.0	263.3	370.0	749.6	1249.2	1481.3	1420.3
82.5°	219.6	197.5	219.6	216.9	203.0	191.9	235.6	324.2	385.2	304.2	240.4
85°	148.3	128.2	144.8	147.6	134.4	99.8	141.3	162.1	166.3	103.9	85.9
87.5°	52.0	50.6	81.8	71.4	58.2	33.9	52.0	56.1	58.9	36.7	24.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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**CANDELA DISTRIBUTION (continued):**

	91°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0	600.0
2.5°	727.5	719.2	677.6	683.8	699.8	707.4	715.0	683.8	668.6	717.1	712.2
5°	952.6	922.2	888.2	883.4	885.4	855.7	873.0	865.4	868.8	900.0	906.2
7.5°	1141.1	1104.4	1059.3	1024.0	963.0	914.5	955.4	976.2	982.4	1037.9	1058.7
10°	1242.9	1211.8	1198.6	1132.1	1112.0	1105.8	1096.1	1062.8	1099.5	1086.4	1096.8
12.5°	1442.5	1436.2	1367.7	1324.0	1328.2	1339.9	1279.0	1245.7	1197.9	1272.7	1245.7
15°	1612.2	1639.2	1570.7	1491.0	1451.5	1471.6	1425.2	1376.7	1333.7	1356.6	1327.5
17.5°	1829.1	1828.4	1694.7	1609.5	1606.0	1604.6	1536.0	1429.3	1480.6	1464.7	1466.0
20°	1944.1	1925.4	1759.1	1660.7	1744.6	1714.8	1653.1	1515.9	1575.5	1594.9	1607.4
22.5°	2040.4	2030.0	1828.4	1756.3	1810.4	1811.1	1749.4	1677.4	1669.7	1730.0	1697.4
25°	2107.6	2149.2	1959.3	1942.0	1965.6	1942.0	1881.7	1834.6	1804.1	1894.2	1804.1
27.5°	2267.0	2208.1	1979.4	2077.8	2092.4	1973.9	2049.4	1994.0	1909.5	2021.0	2057.7
30°	2380.6	2415.2	2120.8	2269.0	2251.7	2142.2	2173.4	2171.3	2070.2	2287.7	2262.1
32.5°	2576.0	2534.4	2351.5	2339.7	2381.3	2376.4	2323.8	2349.4	2374.3	2532.3	2570.4
35°	2776.2	2820.5	2499.1	2578.7	2567.0	2492.1	2630.0	2614.1	2688.2	3012.4	2905.1
37.5°	3227.9	3016.6	2830.2	2819.8	2898.8	2910.6	2866.3	2936.2	3096.3	3345.7	3460.7
40°	3523.8	3427.5	3110.8	3123.3	3013.8	3202.3	3077.6	3302.7	3424.7	3845.2	3804.4
42.5°	3971.3	3736.5	3432.3	3473.9	3451.7	3360.9	3525.1	3640.9	3815.4	4136.2	4343.4
45°	4304.6	3982.4	3838.3	3812.7	3809.9	3967.9	3947.1	4132.1	4194.4	4435.5	4607.4
47.5°	4557.5	4283.8	4070.4	4099.5	4015.0	4466.0	4225.6	4283.1	4409.2	4636.5	4836.7
50°	4857.5	4552.6	4310.1	4382.2	4588.0	4761.2	4543.6	4445.2	4506.9	4775.0	4998.1
52.5°	5135.3	4814.5	4547.8	4608.1	4944.1	4865.1	4841.5	4592.8	4585.2	4800.7	5054.2
55°	5460.2	5098.6	4863.0	5054.2	5173.4	5075.7	5038.3	4735.5	4548.5	4668.3	4907.4
57.5°	5778.9	5379.9	5145.7	5185.2	5336.2	5239.2	4958.6	4492.3	4258.9	4282.4	4524.2
60°	6077.6	5638.3	5445.0	5406.9	5527.4	5147.1	4655.9	4046.9	3737.2	3680.3	3889.6
62.5°	6333.2	5854.5	5671.6	5567.6	5682.6	5150.5	4184.0	3331.8	2991.7	2799.1	2961.9
65°	6536.2	6033.9	5903.7	5849.6	5891.2	4837.4	3448.9	2446.4	2029.3	1815.9	1910.8
67.5°	6671.3	6134.4	6074.8	6145.5	5591.2	4028.8	2555.2	1565.8	1179.9	1063.5	1123.1
70°	6811.3	6223.1	6221.0	5980.6	4741.1	2777.6	1492.4	902.8	686.6	641.6	679.0
72.5°	6764.2	6117.7	6148.9	5230.2	3285.4	1484.7	787.8	510.6	464.9	480.8	514.1
75°	6263.9	5562.1	5411.7	3760.0	1863.7	690.1	453.8	386.6	383.8	408.1	440.6
77.5°	4543.6	3873.6	3476.0	2131.2	798.8	373.4	333.9	322.9	322.9	342.3	371.4
80°	1497.9	1296.3	1351.0	824.5	377.6	257.7	260.5	265.4	264.0	268.8	293.1
82.5°	246.0	255.0	394.2	336.7	227.9	176.0	196.8	206.5	209.2	187.1	212.7
85°	87.3	98.4	167.7	155.9	131.6	88.7	129.6	144.8	142.7	124.7	137.9
87.5°	27.0	34.6	61.0	47.1	39.5	24.2	48.5	56.8	71.4	29.1	26.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)